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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,786	10/24/2003	Guo-Xin Jin	2002B181B	2340

23455 7590 04/05/2006

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EXAMINER	
PASTERCZYK, JAMES W	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,786	JIN ET AL.	
	Examiner	Art Unit	
	J. Pasterczyk	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-33* is/are pending in the application.

4a) Of the above claim(s) *17-19,21 and 22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-16,20 and 23-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-4 and 7-33* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This Office action is in response to the amendment filed 3/6/06 and refers to the Office action mailed 12/5/05.

2. Applicant's election of claims 1-16 and 20 in the reply filed on 3/6/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Because claims 23-33 are drawn to the same invention as the elected claims, they will be joined to them and examined herein.

3. Claims 23-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the metal being from group 4, does not reasonably provide enablement for the metal being from any other group. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Each of the structures as drawn requires that the metal be in a 4+ oxidation state. Group 3 metals are not capable of achieving this oxidation state since they only have three valence electrons. Group 4 metal compounds of these structures would have 16 valence electrons and hence have one empty bonding orbital into which an olefin could donate a pair of electrons. Any metal of group 5 or higher would violate the 18 electron rule by populating antibonding orbitals when the olefin that is undergoing polymerization in the finished catalyst binds to the transition metal. Only the third structure of e.g. claim 30 would be capable of having a group 4-6 metal in the compound with the concurrent capability of being able to bind to an olefin undergoing polymerization. For these reasons the claims are considered to be overbroad.

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 23-33 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. For the reasons given above in paragraph 3 the invention as currently claimed is considered to be inoperative.

6. Claims 1, 2, 3, and 23-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, last few lines, delete "and R" " in its two instances since this variable is now deleted.

In claims 2 and 3, " and R" " now lacks antecedent basis since this variable has been deleted from claim 1.

In claim 23, part (b), insert --or M^1-- after "connected to M" since L_A can also be bonded to M^1. It is not clear that the recitation of (c)(ii) makes this compound any different than that of the third formula; if not this section should be cancelled, but if so insert --or T-- after "connected to M". In (d) insert --or J-- after "L_A and L_B" if the section (c)(ii) is to be retained. In the penultimate line, L_A being substituted at more than one carbon atom presumes there is more than one carbon atom in the ring, which is not necessarily true for heteroatom-containing rings. Claim 30 also has these problems with the exception of the last one.

In claim 24, part (c), insert --and T-- after "connected to M", and in (d) change "and L_B" to --and J--.

In claims 25 and 31, insert --an-- before "alkyl styrene".

In claims 27 and 33, change the last "or" to --and-- for proper closed Markush language.

7. Claims 1, 11, 12, and 20 are objected to because of the following informalities: in claim 12 insert --an-- before "alkyl styrene"; in claim 11 change "ligand" to --ligands--. In claim 1, part (b), insert --or M^1-- after "to M"; in (d) insert --or J-- after "and L_B". In claim 20, the examiner still contends that use of the symbol TM is unnecessarily confusing, given that the independent claim uses both a T and an M, that TM is the symbol for trademark, and the metal in the claim as now amended may only be titanium. The use of Pn to mean something other than pnictogen is also unnecessarily confusing. In (b) delete "selected from", and it is confusing that R and R' are used in both claim 20 and claim 1 without there being a clear distinction between when they are used in the independent claim versus the dependent claim. Appropriate correction is required.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-4, 7-16, 20 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Chinese Patent No. 1352204A (hereafter referred to as Jin).

Jin discloses the invention as claimed (page 7, bottom of the English translation; part 5 on page 10 of the English translation).

11. Claims 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin as cited above in view of Chabrand et al., USP 5,714,425 (hereafter referred to as Chabrand).

The disclosure of Jin has been discussed above.

Jin lacks disclosure of particular metallocenes being used in their composition.

However, Chabrand discloses in its figures metallocenes having olefinic side groups with structures reading on those of the present claims, and in col. 1, l. 45 the use of any group 4 metal.

It would have been obvious to one of ordinary skill in the art to apply the teaching of Chabrand to the disclosure of Jin with a reasonable expectation of obtaining a highly-useful composition with the expected benefit of the polymers made using the catalyst having good processability.

12. Claims 23 and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Antberg as cited in paragraph 10 of the previous Office action.

Antberg discloses the invention as claimed in the present claims in col. 2, l. 1 to col. 5, l. 60; col. 5, l. 67 to col. 6, l. 7; col. 6, l. 14-35.

13. Claims 1-4, 7-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antberg as cited in paragraph 12 above in view of Jin as cited in paragraph 10 above.

The disclosure of Antberg has been discussed above.

Antberg lacks disclosure of the range of metals presently claimed.

However, Jin teaches at page 7, last line, that the metal for metallocenes used in mixed compound catalysts copolymerized into a single copolymer may be any of the group 4 metals.

It would have been obvious to one of ordinary skill in the art to apply the teaching of Jin to the disclosure of Antberg with a reasonable expectation of obtaining a highly-useful olefin precatalyst with the expected benefit of the polyolefins produced having tailored processability.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Pasterczyk

AU 1755

3/20/06